

## NOTES FROM 02.16.05 PROTON DRIVER MEETING - CIVIL

Attendees: Bill Foster, Mike May, Chuck Federowicz, Rich Stanek, Dixon Bogert, Rod Walton, Tom Lackowski, Elaine McCluskey

Items discussed:

1. Location of Cryo Building due to possible change in cryo
  - a. Discussion in response to phone call from Arkadiy Klebaner who indicated that methods for supplying cryo might make putting the building closer to the front end more effective.
  - b. Bill said to leave building as is for now, that during review cryo will be discussed.
2. Reuse of existing enclosures in Fixed Target Area
  - a. Elaine explained that FESS/Eng had done a review of where precast enclosures exist in the Fixed Target Area.
  - b. Very few precast sections exist, and those that do probably would not be able to support required earth for shielding criteria of 26 ft
  - c. Concluded that this is sufficient to indicate it's been investigated.
3. FEL drawn on current site plan and alignment
  - a. Good to have for information now, but may not be required for Director's review
  - b. Alignment may be under consideration again due to idea to reuse CHL instead of building new cryo plant.
4. Access for installation/operations - hatch versus downstream access
  - a. Mike May has recently brought on to the project to look at tunnel equipment and layout
  - b. He talked to SNS about what they did with installation and what they didn't like. Moving past the installed components at the upstream end presented problems for them. Therefore, Mike said he thought an access at the downstream end of the Linac would be more useful. It would also be approximately centered on the entire new facility. It could possibly add flexibility to installation schedules by allowing installation in the transfer line while testing is going on in the linac portion.
  - c. A downstream access would be via a hatch in a building to the north of the enclosure/gallery complex. This would eliminate the hatch in the upstream building.
  - d. Radius of the labyrinth is set by the longest thing to be driven around. This is currently thought to be a cryomodule 40 ft long plus the additional vehicle length, maybe a total of 75 ft. Bill said the cryomodule may grow to 56 ft. How much stuff hangs off the cryomodules, that will need to be considered for diameter of thing to be moved.
  - e. Mike is working with others to develop the labyrinth layout. He will have them do two schemes, one for each possible length. Then we can try to site it in conjunction with the facility.
5. Layout of Upstream Building:
  - a. Influenced by what happens with access hatch as described in #4 above: if hatch removed, building layout is probably simplified to include access to lower level with elevator & stairs, OH door, toilet rooms, tech/prep area. Similar spaces in MI60 are approximately 65 ft x 20ft. For now, don't layout building interior.
  - b. Basement of this building will need to house RFQ and associated equipment. At SNS, this is entire basement of building. Need to understand for PD what size support equipment is. Technology is different, so size probably is, too. Could be more like 2 time tunnel width.
6. Review of SNS cross-section: Mike brought some older SNS linac enclosure cross-sections, which enabled the following discussion:
  - a. How much room is required on the non-aisle side of the cryomodules? Needs to be enough to be able to stand back there, and need a way to get in and out. What is actual size and beam height wrt this cryomodule? Talked about possibility of depressing floor for some component parts.
  - b. What is requirement for sprinklers? Discussed sprinkler philosophy in MI – near exits where trash piles up. Concluded to keep similar philosophy for this project initially. Will have to have life safety analysis performed eventually.
  - c. What is air duct seen in SNS section? Do we need this? Discussed how our air supply/exhaust system in MI is for supply air to be raw from outside or just heated in winter, and dehumidification is done with single units in tunnel. No cooling. Does linac equipment require controlled air environment?
  - d. Talked about location of waveguide penetration. Concluded ceiling location good, exact horizontal location not essentially known just yet.
  - e. Goal is to have confidence in our cross-section, which will justify the tunnel size, and to update for review.

7. Civil construction schedule as drafted: Additional information added regarding environmental activities and what is required before CD's.
  - a. Key points are
    1. NEPA determination has to be done before CD2. This requires reasonably good preferred alternate definition. Can't do this on several alternates.
    2. EA can start ASAP.
    3. Environmental has some float before it would be on critical path according to this preliminary schedule.
    4. Early CD-3 for site work could also include ok for pre-procurement of equipment like precast or transformers. This could help with obligations profiles.
    5. Construction work could be ready for FY08 funding
  - b. Additional thoughts about schedule:
    1. could work east of MR be broken up and done simultaneously to get that piece ready for beneficial occupancy earlier to aid installation? Maybe Transfer line as separate piece?
    2. Would cryo building be part of CD3A, since there could be a lot of work to get equipment installed in that facility?
    3. How does it work to connect up utilities that go through the tunnel (like LCW) and use them early is not all the tunnel is there yet?

**ITEMS FOR NEXT WEEK:**

Information from Mike about cross-section layout.

Elaine will try again to bring soil boring map of site along to look at what borings have been done in this area already, plus remind us of prior discussions about borings.

Schedule improvements related to civil construction packages.

**NEXT MEETING WILL BE 2/23/05 IN conFESSional AT 9:30 A.M.**